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EXAMINER	
VERDIER, CHRISTOPHER M	

ART UNIT	PAPER NUMBER
3745	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/557,527	CERIC ET AL.	
	Examiner	Art Unit	
	Christopher Verdier	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 January 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's Amendment dated January 3, 2008 has been carefully considered but is non-persuasive. Claims 11-20 are pending. The Replacement Sheet of Drawings dated January 3, 2008 is acceptable. The abstract has been amended to correct the informalities therein, the specification has been amended to correct the informalities therein, and the claims have been amended to overcome the rejections set forth in the first Office action. Correction of these matters is noted with appreciation.

Concerning German Patent 3,926,556, Applicant has argued that the English language abstract thereof does not describe any function to element 40, which was relied upon in the first Office action as a restrictor. It is noted that this reference was cited by Applicant, not the examiner. A reference is not limited only to the text description in the abstract. An English translation of the text of this reference is readily available at the European Patent Office website http:// ep.espacenet.com, and is attached hereto for Applicant's convenience. Drillings 40 are described as working as throttles, otherwise known as restrictors. With regard to Applicant's argument that in the conclusions accompanying the PCT Search Report for this application, German Patent 3926556 was reviewed and the examiner of the PCT application did not identify a restrictor in that reference, the examiner disagrees. The June 21, 2004 search report lists the German Patent as an "X" reference against certain claims. With regard to Applicant's argument that the examiner in the International Preliminary Examination Report identified a restrictor in document D4 yet nonetheless concluded in the section titled "Re Point V" that the claimed subject matter differs from the known bearing, this argument is not persuasive. The International Preliminary Examination Report of November 21, 2005 does not contain any mention of German

Patent 3,926,556. Furthermore, the patentability opinions in PCT practice are non-binding as applied to U.S. patent practice.

Concerning Applicant's argument that claim 11 now requires "a first hydraulic piston element positionable in the bearing body to exert the first force in the first direction and against the first stop surface ... and a second hydraulic piston element positionable in the bearing body to exert the second force in the second direction and against the second stop surface ...", and "a first flow path extending to pistons in the first element and a second flow path extending to pistons in the second element wherein to limit the displacement speed of the rotor, at least one restrictor is positioned in the first flow path.", and that German Patent 3,926,556 does not teach or suggest this combination, the examiner disagrees. As set forth later below, the German Patent '556 discloses all of these elements.

Applicant's arguments that Swearingen 3,828,610 does not disclose pistons to exert the claimed force, and that there is no teaching in the prior art for use of a restrictor to reduce the displacement speed of a rotor, are not persuasive. Swearingen discloses pistons 14, 15 and restrictors 12b, 13b, or 22, 23. Elements 14, 15 function as pistons since they are movable axially in chamber 11a, and restrictors 12b, 13b, or 22, 23 reduce the displacement speed of the rotor 11. It is noted that pertaining to claim 11, Swearingen does not disclose first and second stop surfaces on the rotor.

Applicant has requested reconsideration of the rejection of claim 19, but has not pointed out any specific arguments pertaining to the rejection. As set forth above, German Patent 3,926,556 teaches least one restrictor 40 is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system.

Claim Objections

Claims 11-18 are objected to because of the following informalities: Appropriate correction is required.

In claim 11, line 3, "sides" should be changed to -- side --.

In claim 11, line 12, -- , -- should be inserted after "pistons".

In claim 11, line 20, "pistions" should be changed to -- pistons --.

In claim 16, line 1, "the" should be deleted.

In claim 18, line 2, "a" (second and fourth occurrences) should be deleted.

In claim 18, line 2, "postioned" should be changed to -- positioned --.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 11, line 5, "thereto" is indefinite because it is unclear which element this refers to. In claim 11, line 7, "thereto" is indefinite because it is unclear which element this

refers to. In claim 12, lines 1-2, "a restrictor is formed in the first flow path" is a double recitation of the restrictor in the first flow path recited in claim 11. In claim 19, lines 6-7 and 9-10, "the hydraulic piston arrangement" is unclear because it does not agree with the "the hydraulic piston arrangements" recited in line 3.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-12 and 14-17 (as far as they are definite and understood) are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent 39 26 556. Disclosed is a shaft bearing assembly 10 for axially mounting a rotor 2 and for selective movement of the rotor along a thrust axis of the rotor, comprising a bearing body 12/14 having a first and second opposing track side (the left and right sides), the first track side positionable along the axis and adjacent a first stop surface (near 20) on the rotor to transfer a first force in a first direction along the thrust axis, the second track side positionable along the axis and adjacent a second stop surface (analogous to 20 on the right side of the rotor) on the rotor to transfer a second force in a second direction along the thrust axis, the second direction being opposite the first direction, a first hydraulic piston element 28 positionable in the bearing body to exert the first force in the first direction and against the first stop surface, a second hydraulic piston element 28 positionable in the bearing

body to exert the second force in the second direction and against the second stop surface (note that pistons are provided on both the left and right sides), the first and second elements each comprising a plurality of hydraulic pistons, each piston operatively positioned in a piston chamber 32 to effect one of the first or second forces, operation of the first and second elements enabling displacement of the rotor along the first or second direction from a first operating position into a second operating position, a hydraulic system (not shown) connected to generate the first and second forces with hydraulic fluid acting on the pistons of the first and second elements, the hydraulic system including a first flowpath extending to pistons in the first element and a second flow path extending to pistons in the second element, wherein to limit displacement speed of the rotor, restrictors 40 are positioned in the first flow path. A restrictor 40 is formed in the first flow path and a restrictor 40 is formed in the second flow path by forming flow constrictions in each flow path. Concerning claim 14, which recites that the piston chambers in different elements are hydraulically connectable to one another through a control valve selectively connecting the first flow path to the second flow path, this is recitation of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The piston chambers are fluidically connected to one another via ring channel 44. Each hydraulic piston element is of annular design. When the system is assembled on the rotor, the at least one restrictor limits the displacement speed of the rotor only in the event of a fault, due to the structural similarity to Applicant's disclosed restrictor arrangement. The recitation in claim 11, lines 1-2 of "for axially mounting a rotor of a

gas turbine" is a recitation of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Swearingen 3,828,610 (figure 1). Disclosed is a gas turbine (column 10, lines 5-10 and noting that the turbine is operable in air, thus being a gas turbine) having a bearing positioned to support a rotor 11, comprising a rotationally fixed bearing body 12/13 that has a hydraulic piston arrangement 14/24, 15/25 for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system 18, 19, 16, 17 fluidically connected by a fluid flow path to the hydraulic piston arrangement, wherein to limit the displacement speed of the rotor, restrictors 12b, 13b or 22, 23 are arranged in fluid flow path between the hydraulic piston arrangement and the hydraulic system.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 19, as far it is definite and understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Arvidsson 4,915,510 in view of German Patent 39 26 556 and Applicant's Admitted Prior Art. Arvidsson discloses a shaft bearing system for axially mounting a rotor 1 of a gas turbine, comprising a rotationally fixed bearing body 12, 13 that has first and second hydraulic piston arrangements 2, 3 formed separately from one another at opposing positions along the bearing body, for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system 4-9 fluidically connected by a fluid flow path to the hydraulic piston arrangement, with the first and second hydraulic piston arrangements 2, 3 that are fluidically connected to one another with a directional control valve 8.

However, Arvidsson does not disclose that to limit the displacement speed of the rotor, at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system, and does not disclose that the directional control valve is a 4/2-way directional control valve.

German Patent 39 26 556 shows a bearing 10 for axially mounting a rotor 2 of a gas turbine, comprising a rotationally fixed bearing body 12/14 that has a hydraulic piston arrangement 16 for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system (unnumbered, connected at 44 to a source of oil pressure) fluidically connected to the hydraulic piston arrangement, wherein to limit the displacement speed of the rotor, restrictors 40 are arranged in a fluid flow path between the hydraulic piston arrangement and the hydraulic system.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing body of Arvidsson with at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system, as taught by German Patent 39 26 556, for the purpose of limiting the displacement speed of the rotor.

With regard to the recitation of the directional control valve being a 4/2-way directional control valve, Official Notice was taken in the first Office action that the use of 4/2-way directional control valves are well-known in the art of hydraulic systems, for the purpose of providing communication between two fluid motors (pistons). Applicant did not traverse the examiner's assertion of official notice. Pursuant to MPEP 2144.03, the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of official notice.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing body of Arvidsson such that the directional control valve is a 4/2-way directional control valve, as taught by Applicant's Admitted Prior Art, for the purpose of providing communication between the two fluid pistons.

The recitation in claim 19, line 1 of "for axially mounting a rotor of a gas turbine" is a recitation of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing use, then it meets the claim.

Claim 19, as far it is definite and understood, is also rejected under 35 U.S.C. 103(a) as being unpatentable over Arvidsson 4,915,510 in view of German Patent 39 26 556. Arvidsson discloses a shaft bearing system for axially mounting a rotor 1 of a gas turbine, comprising a rotationally fixed bearing body 12, 13 that has first and second hydraulic piston arrangements 2, 3 formed separately from one another at opposing positions along the bearing body, for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system 4-9 fluidically connected by a fluid flow path to the hydraulic piston arrangement, with the first and second hydraulic piston arrangements 2, 3 that are fluidically connected to one another with a directional control valve 8.

However, Arvidsson does not disclose that to limit the displacement speed of the rotor, at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system.

German Patent 39 26 556 shows a bearing 10 for axially mounting a rotor 2 of a gas turbine, comprising a rotationally fixed bearing body 12/14 that has a hydraulic piston arrangement 16 for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system (unnumbered, connected at 44 to a source of oil pressure) fluidically connected to the hydraulic piston arrangement, wherein to limit the displacement speed of the rotor, restrictors 40 are arranged in a fluid flow path between the hydraulic piston arrangement and the hydraulic system.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing body of Arvidsson with at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system, as taught by German Patent 39 26 556, for the purpose of limiting the displacement speed of the rotor. Concerning the recitation in claim 19, lines 10-12 that the two hydraulic piston arrangements are fluidically connectable to one another through a 4/2-way directional control valve, this is a recitation of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing use, then it meets the claim. The modified shaft bearing system of

Arvidsson is formed such that the two hydraulic piston arrangements are fluidically connectable to one another through a 4/2-way directional control valve.

Claim 20 is also rejected under 35 U.S.C. 103(a) as being unpatentable over Reichert 2002/0009361 in view of German Patent 39 26 556. Reichert (figure 3) discloses a gas turbine having a bearing positioned to support a rotor 2, comprising a rotationally fixed bearing body 1 that has a hydraulic piston arrangement 4, 5 for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system 12 fluidically connected by a fluid flow path to the hydraulic piston arrangement.

However, Reichert does not disclose that to limit the displacement speed of the rotor, at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system.

German Patent 39 26 556 shows a bearing 10 for axially mounting a rotor 2 of a gas turbine, comprising a rotationally fixed bearing body 12/14 that has a hydraulic piston arrangement 16 for axially displacing the rotor from a first operating position into a second operating position, and a hydraulic system (unnumbered, connected at 44 to a source of oil pressure) fluidically connected to the hydraulic piston arrangement, wherein to limit the displacement speed of the rotor, restrictors 40 are arranged in a fluid flow path between the hydraulic piston arrangement and the hydraulic system.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing body of Arvidsson with at least one restrictor is arranged in the fluid flow path between the hydraulic piston arrangement and the hydraulic system, as taught by German Patent 39 26 556, for the purpose of limiting the displacement speed of the rotor.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Verdier/
Primary Examiner, Art Unit 3745

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